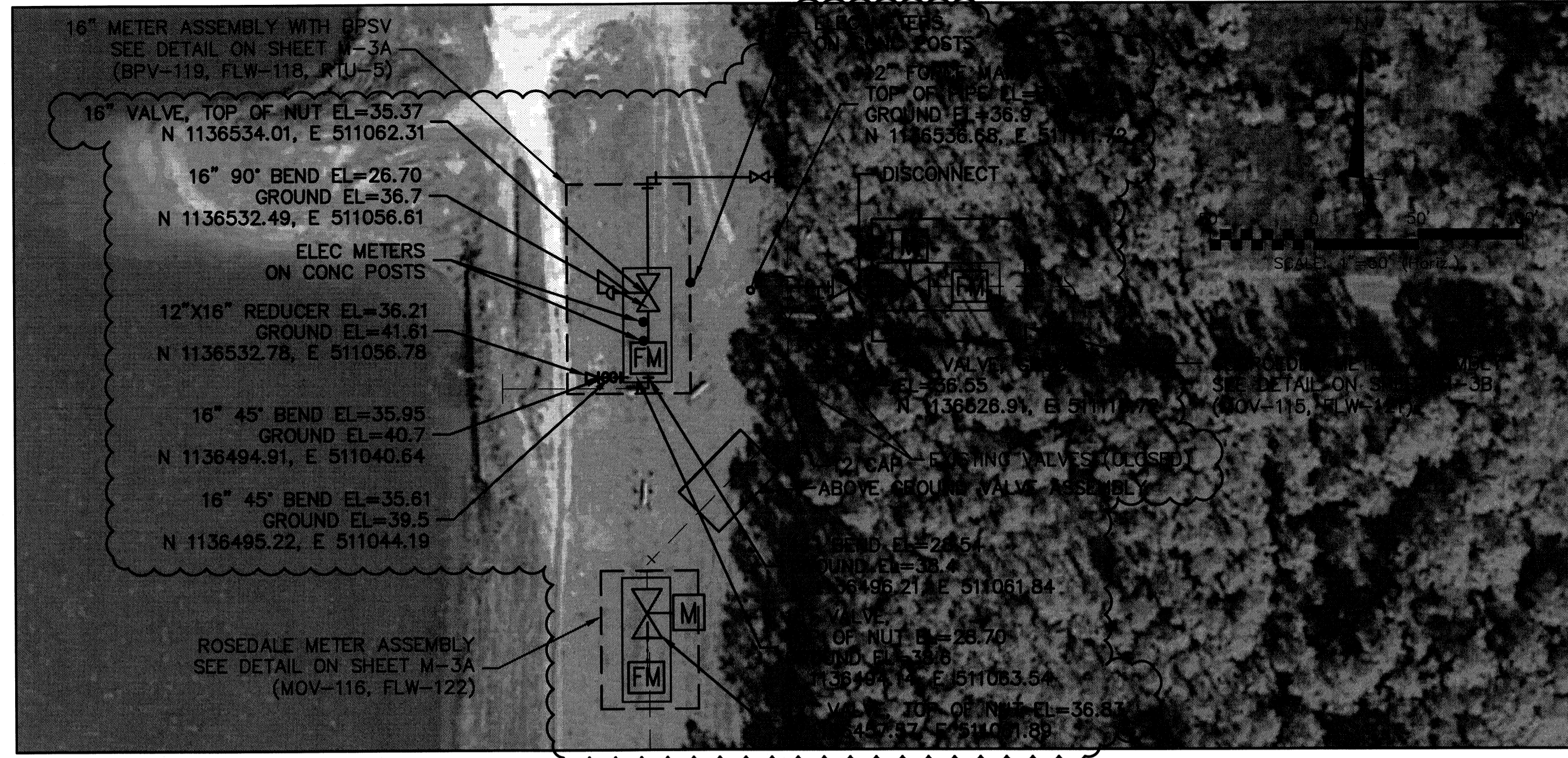
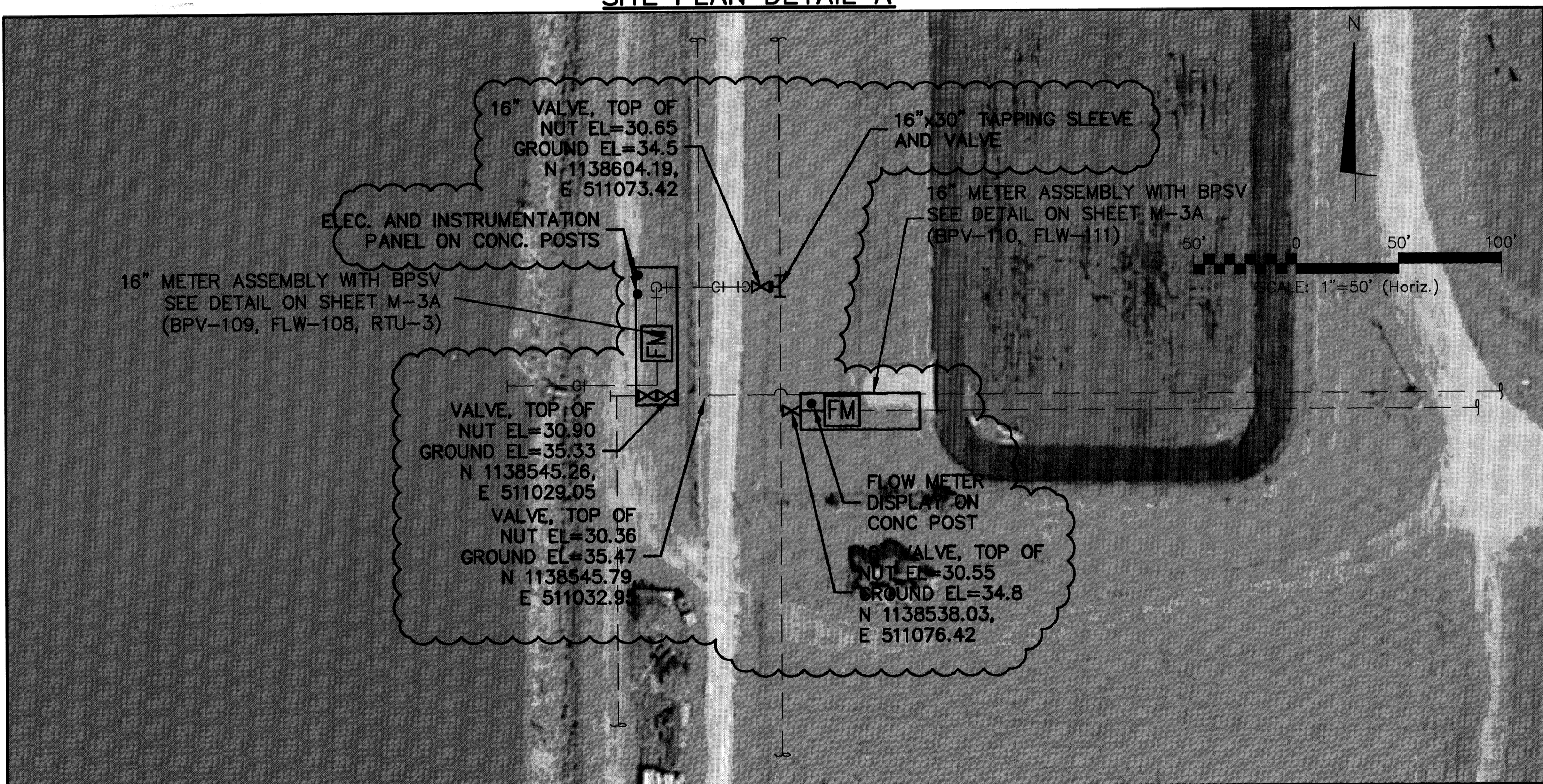


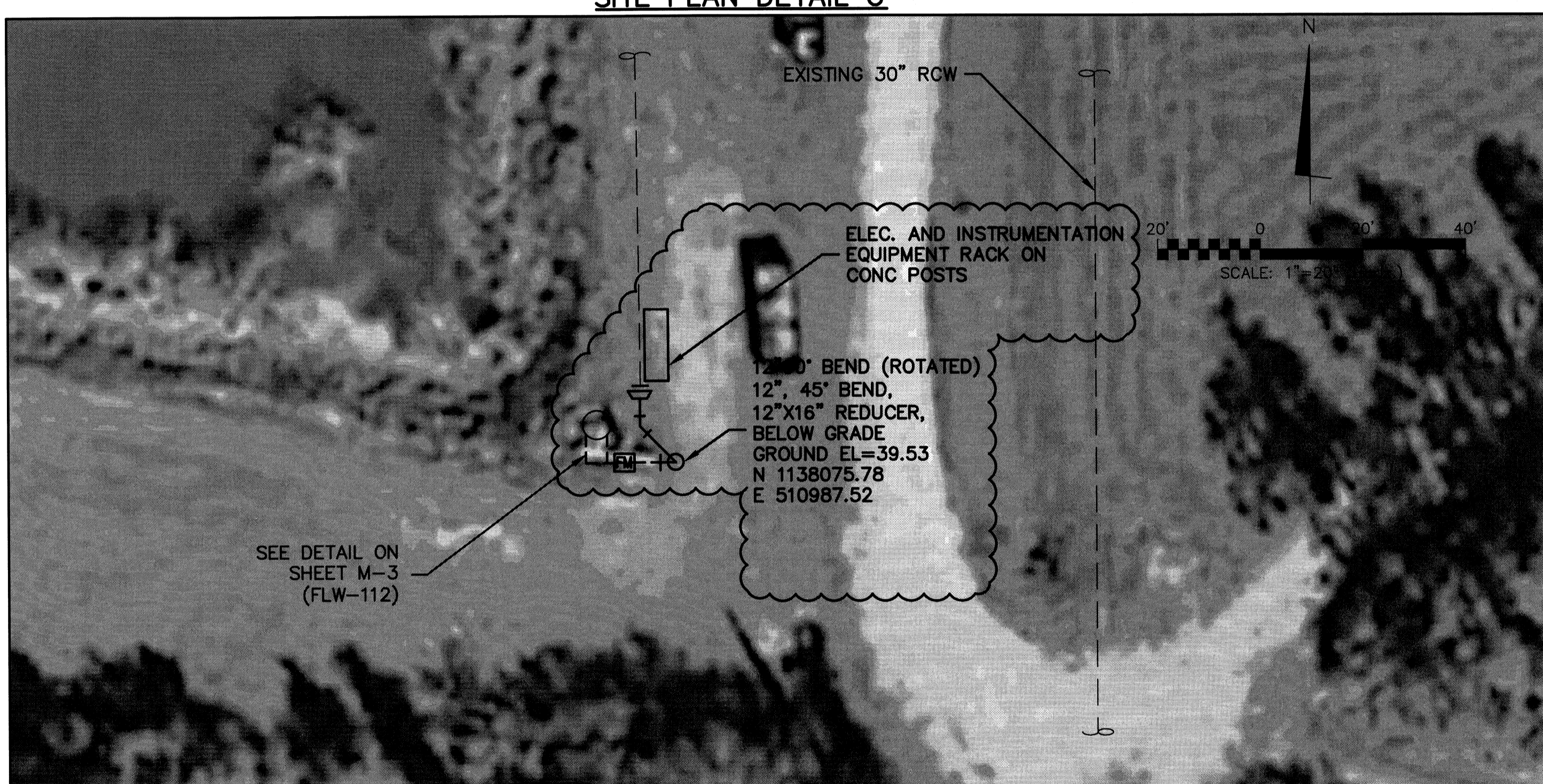
SITE PLAN DETAIL A



SITE PLAN DETAIL C



SITE PLAN DETAIL B



SITE PLAN DETAIL D

CERTIFICATION

CERTIFIED TO: BRANDES DESIGN BUILD
 I HEREBY CERTIFY THAT THE SURVEY REPRESENTED HEREON MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATUTES.

SEPTEMBER 26, 2011
 DATE OF SURVEY

Dan H. Rizzuto
 DAN H. RIZZUTO
 PROFESSIONAL LAND SURVEYOR
 LICENSE NUMBER 66 5227
 STATE OF FLORIDA

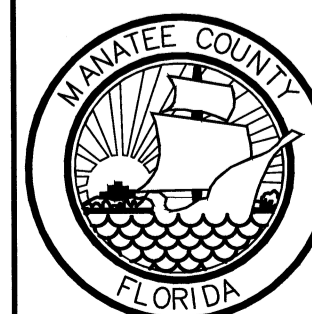
SAVED: 10/22/2012 11:34 AM
 PLOTTED: 10/22/2012 11:55 AM

07-13-12	3	ADDITIONAL LOCATIONS PER COMMENTS
07-05-12	2	ADDITIONAL LOCATIONS PER COMMENTS
06-12-12	1	ADDED STATE PLANE COORDINATES
DATE	NUMBER	REVISIONS
PROJECT: SEWWTP		
TYPE OF SURVEY: RECORD SURVEY		
PREPARED FOR: BRANDES DESIGN BUILD		
POLARIS ASSOCIATES INC. PROFESSIONAL SURVEYING LB 6113 2165 SUNNYDALE BOULEVARD, SUITE D CLEARWATER, FLORIDA 33765 (727) 461-6113		
CHECKED BY: JDF	SCALE: AS NOTED	DRAWN BY: JT
JOB NO. 4136-01	SURVEY DATE: 12-02-2011	SHEET 1 OF 4

ELEVATIONS ARE BASED ON
 MANATEE COUNTY
 BENCHMARKS, 127-29-04,
 HAVING AN ELEVATION OF
 31.99 AND 127-29-05,
 HAVING AN ELEVATION OF
 30.77, NORTH AMERICAN
 VERTICAL DATUM 1988 (NAVD
 88). DATUM CONVERSION
 +0.958, NATIONAL GEODETIC
 VERTICAL DATUM (NGVD 29).



1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 EB0006691
 www.mckimcreed.com



MANATEE COUNTY, FLORIDA

SEWRF RECLAIMED WATER AUTOMATION

DETAILED SITE PLAN

DATE: AUGUST 2012	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0129	HORIZONTAL: AS SHOWN	G-3A
DRAWN: QES	VERTICAL: NA	
DESIGNED: MSL		
CHECKED: JSL		
PROJ. MGR. MSL		

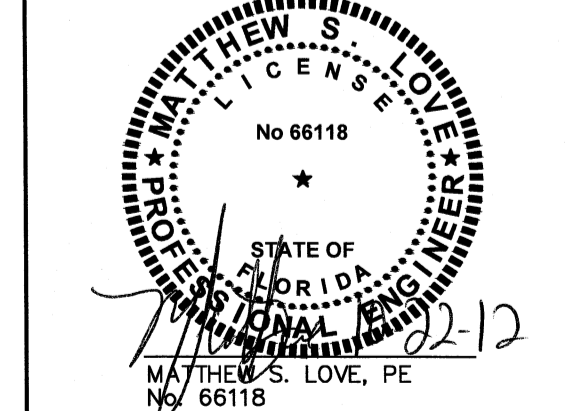
STATUS: RECORD DRAWING

RECORD DRAWING

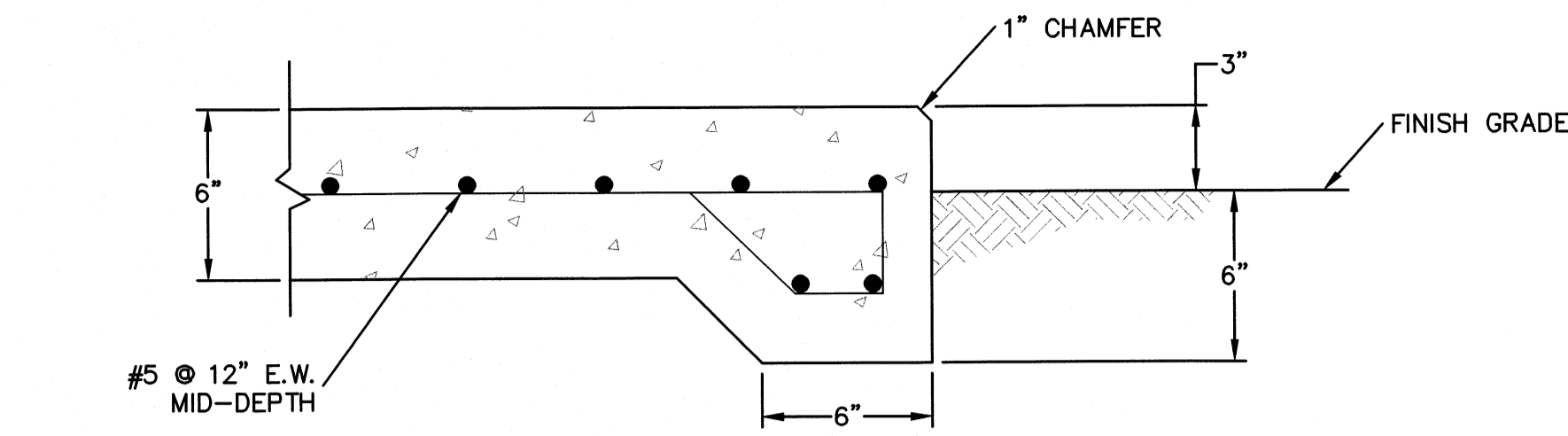
THIS DRAWING REPRESENTS A RECORD OF FACILITIES AND IMPROVEMENTS CONSTRUCTED AS PROPORTED BY THE CONTRACTOR TO BE A PART OF THIS PROJECT, BASED ON THE FOLLOWING:

- A. ENGINEERS REVIEW OF INFORMATION PROVIDED
- B. INFORMATION FURNISHED BY: BRANDES DESIGN-BUILD INC. 2051 NE COACHMEN ROAD CLEARWATER, FLORIDA 33765 Q: 727-445-7544 / F 727-445-7534

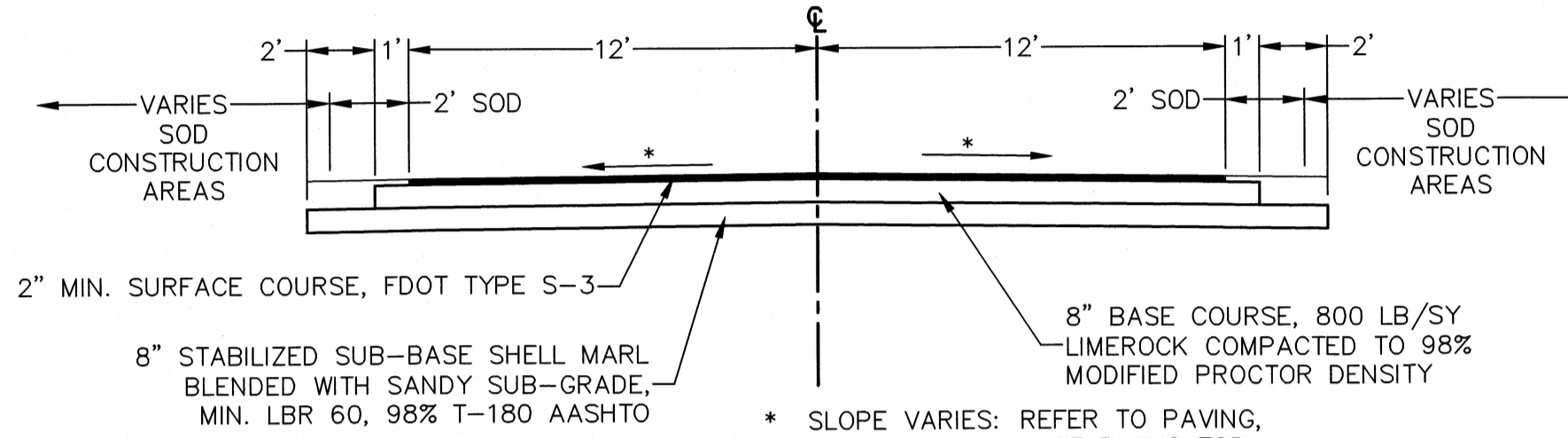
DATE MARCH 2012
 THESE DRAWINGS ARE NOT INTENDED TO REPRESENT A DETAILED RECORD OF ACTUAL DIMENSIONS, ELEVATIONS, OR DETAILS. ALL SUBSTANTIAL CHANGES OR DEVIATIONS FROM THE ORIGINAL DESIGN, KNOWN BY THE ENGINEER, ARE NOTED HEREON.



MANATEE COUNTY
 ENGINEERING DIVISION
 ACCEPTED
 11/21/12

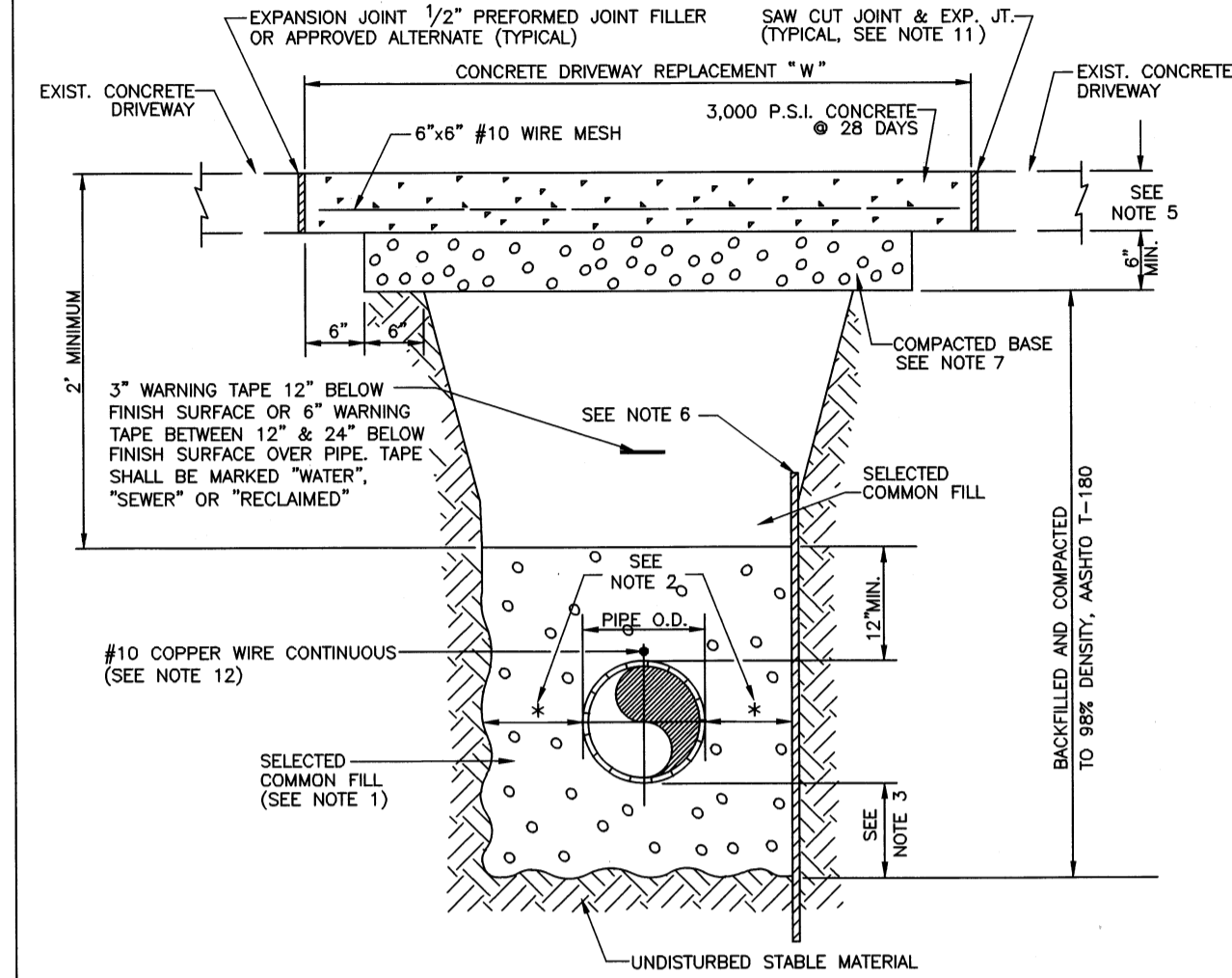


TYPICAL EQUIPMENT PAD DETAIL
NOT TO SCALE



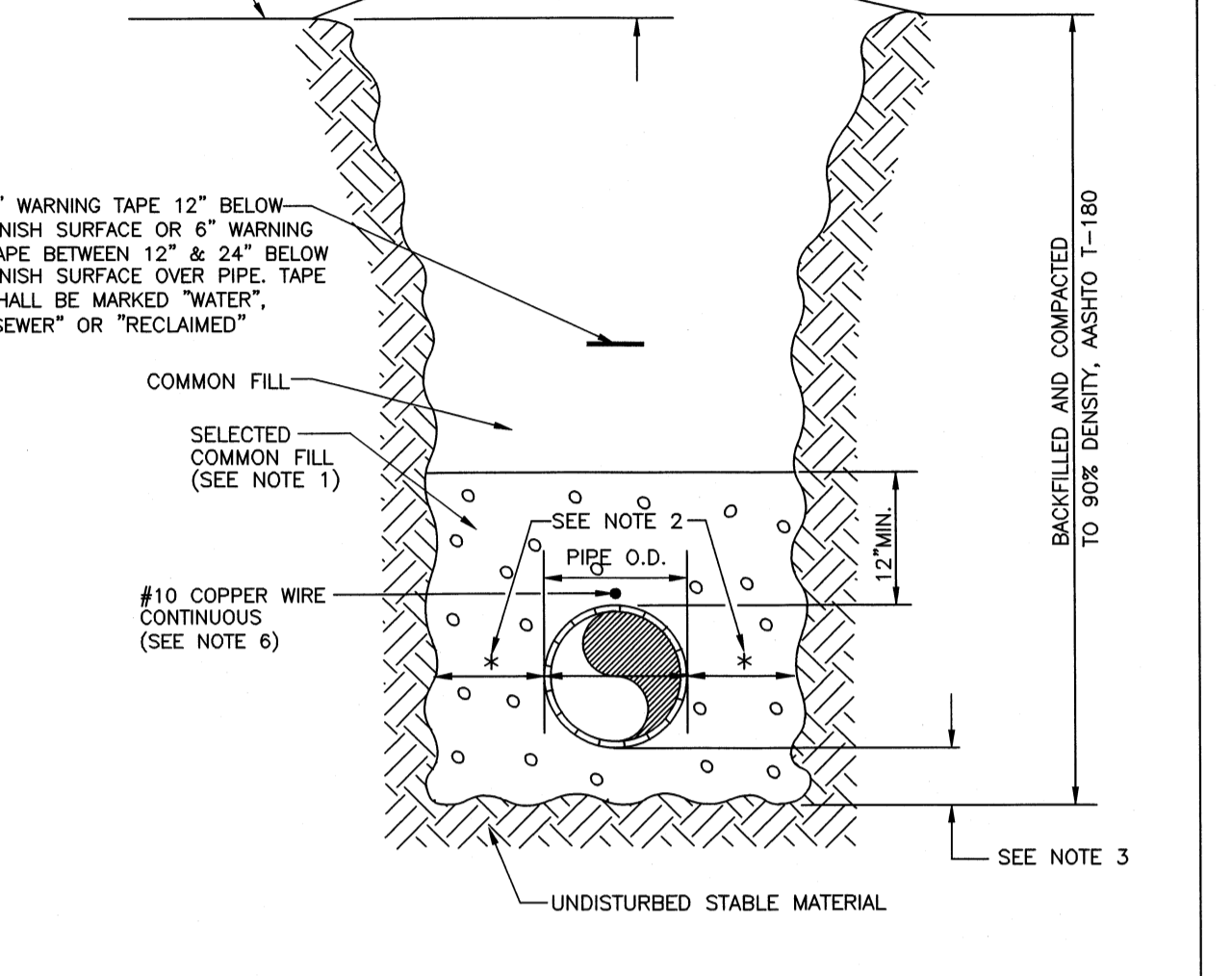
INTERIOR PLANT ROADWAY TYPICAL SECTION
NOT TO SCALE

- NOTES:**
- 1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
 - 4.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5.) THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
 - 6.) SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
 - 7.) BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
 - 8.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 9.) DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
 - 10.) IF THE DRIVEWAY IS 12" OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/16" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
 - 11.) IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
 - 12.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

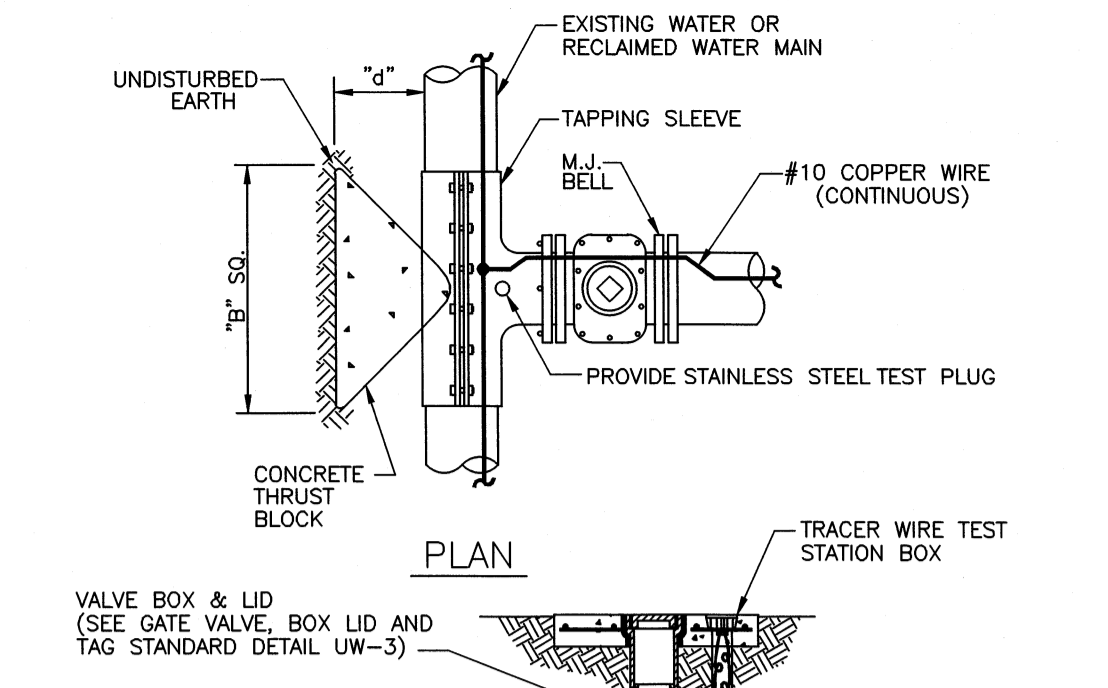


MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING UG-14
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09

- NOTES:**
- 1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
 - 4.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES FOR SELECTED COMMON FILL AND NOT TO EXCEED 12 INCHES FOR COMMON FILL. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 6.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

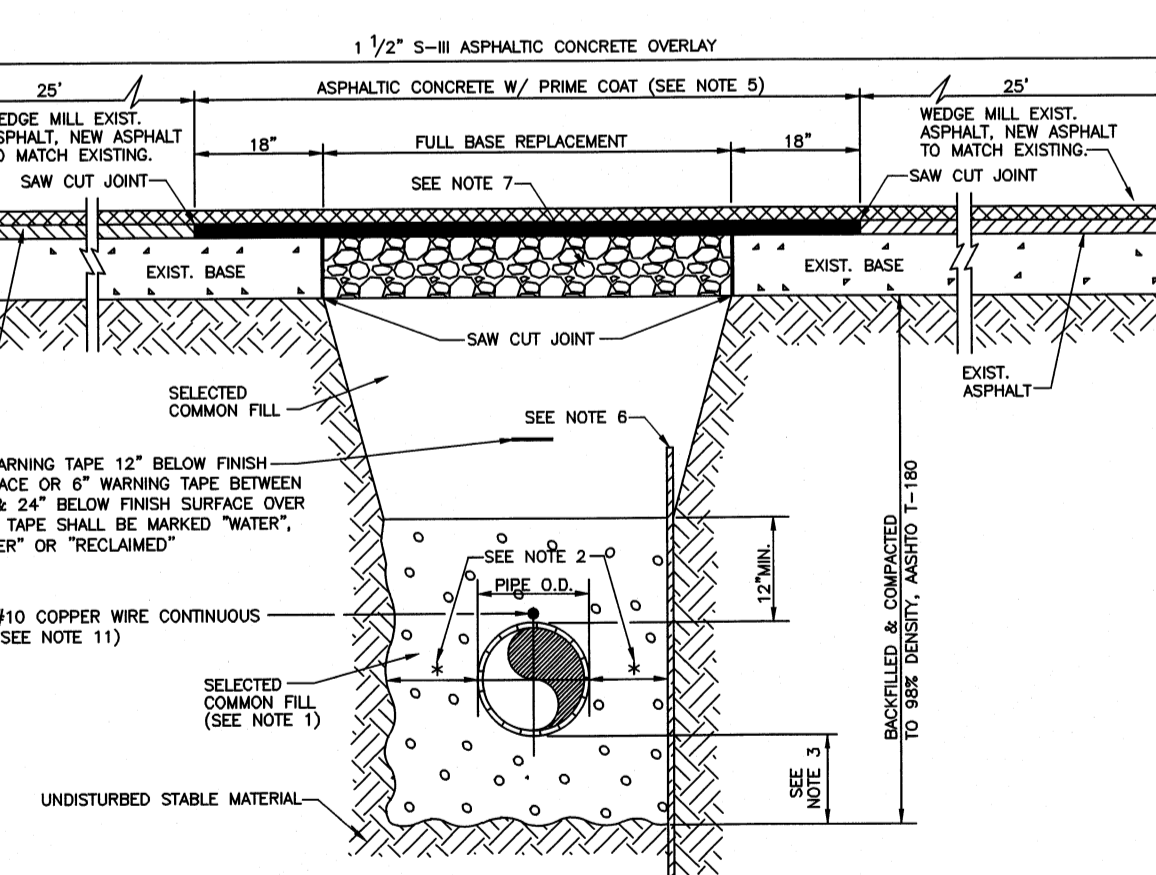


MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING UG-11
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09



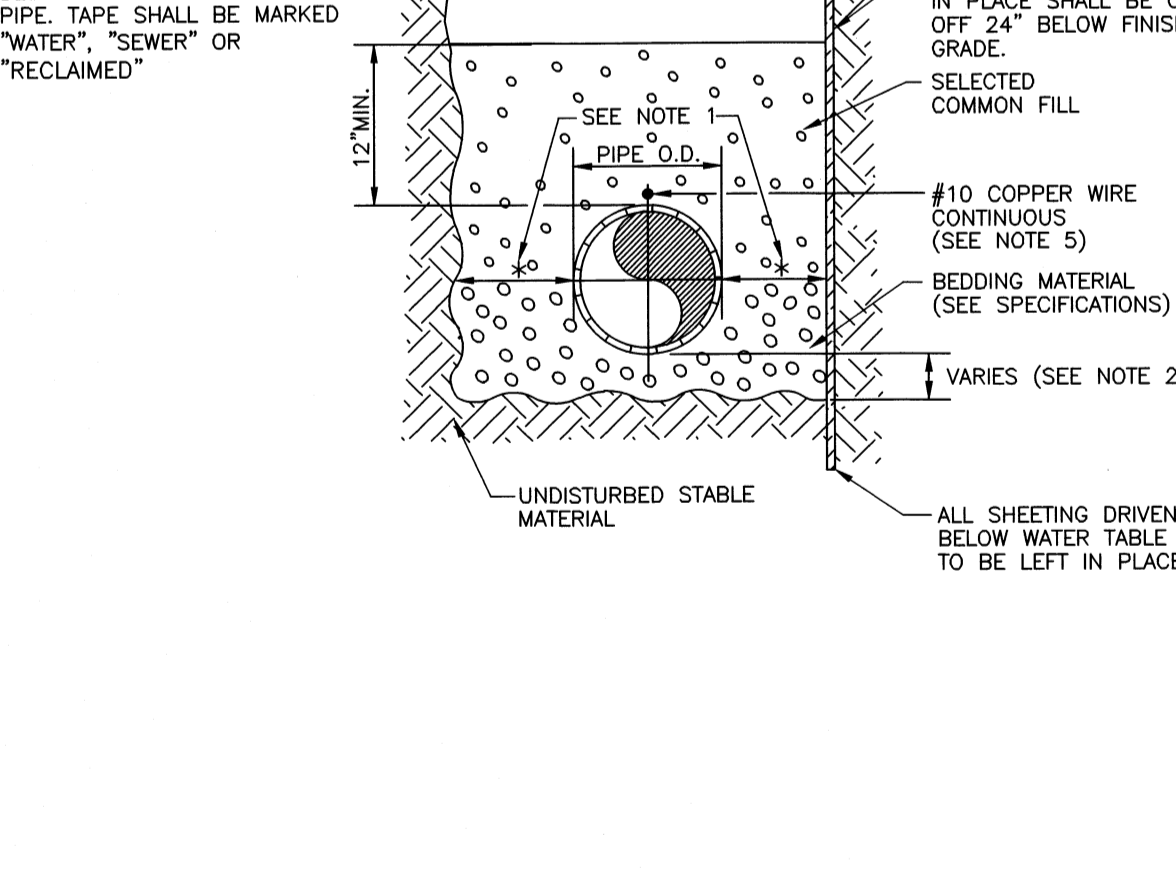
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TAPPING SLEEVE AND VALVE UW-4
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09

- NOTES:**
- 1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2.) 10" MAX. FOR PIPE DIAMETERS LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
 - 4.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5.) ASPHALTIC CONCRETE FRICTION COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF ONE INCH, WHICHEVER IS GREATER.
 - 6.) SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
 - 7.) BASE SHALL BE 8" MINIMUM THICKNESS CRUSHED CONCRETE. SAND ASPHALT BASE WILL BE AN ACCEPTABLE ALTERNATIVE.
 - 8.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 9.) TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIME. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
 - 10.) RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
 - 11.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
 - 12.) NOTES 5.) THRU 11.) ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH ASPHALT PAVEMENT SURFACE TYPE A-1 PIPE BEDDING UG-12
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09

- NOTES:**
- 1.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 2.) 4" MAX. FOR PIPE 16" DIAMETER AND LESS; 6" MAX. FOR PIPE DIAMETER 18" TO 36" AND 9" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 4.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 5.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



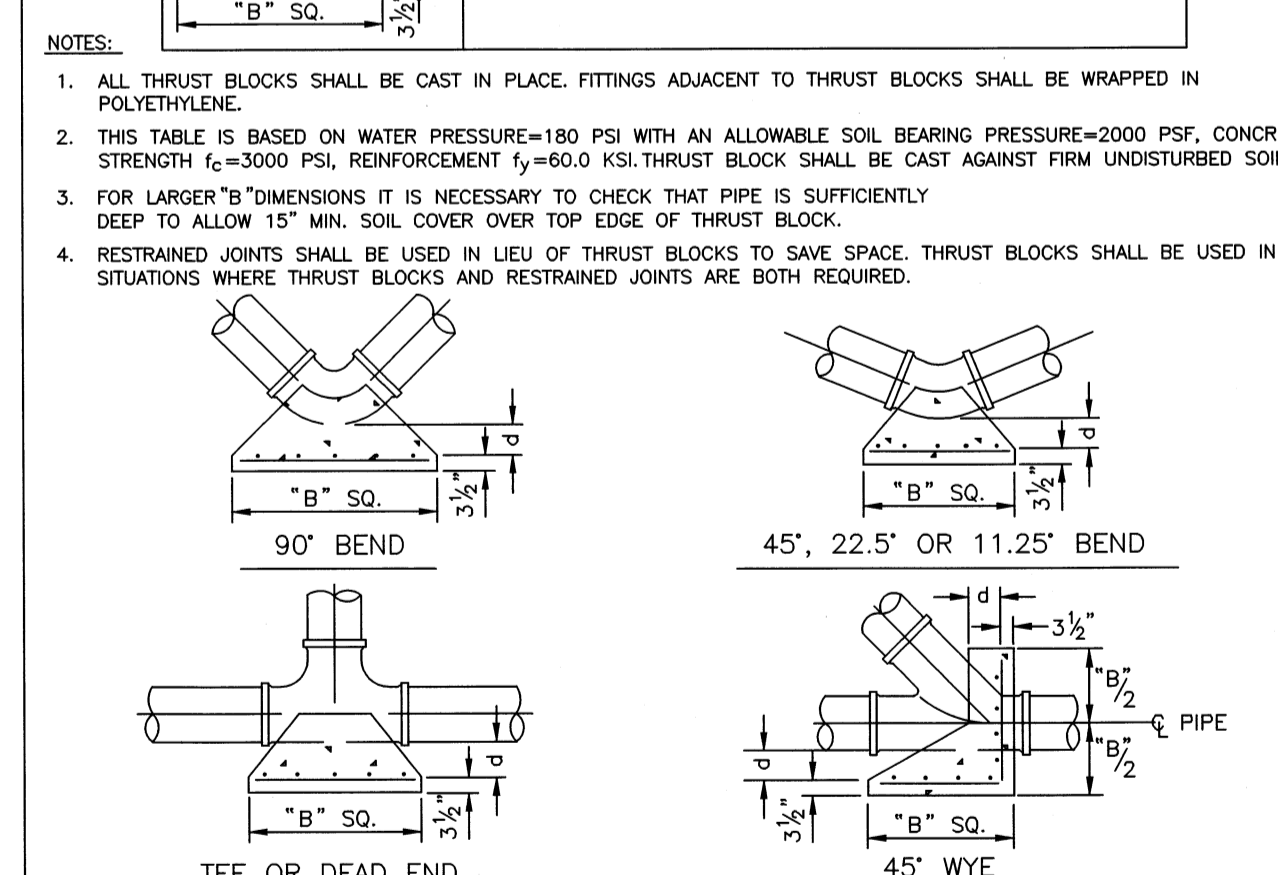
MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH TYPE A-2 PIPE BEDDING UG-15
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09

THURST BLOCK DIMENSIONS B ft. x d inches

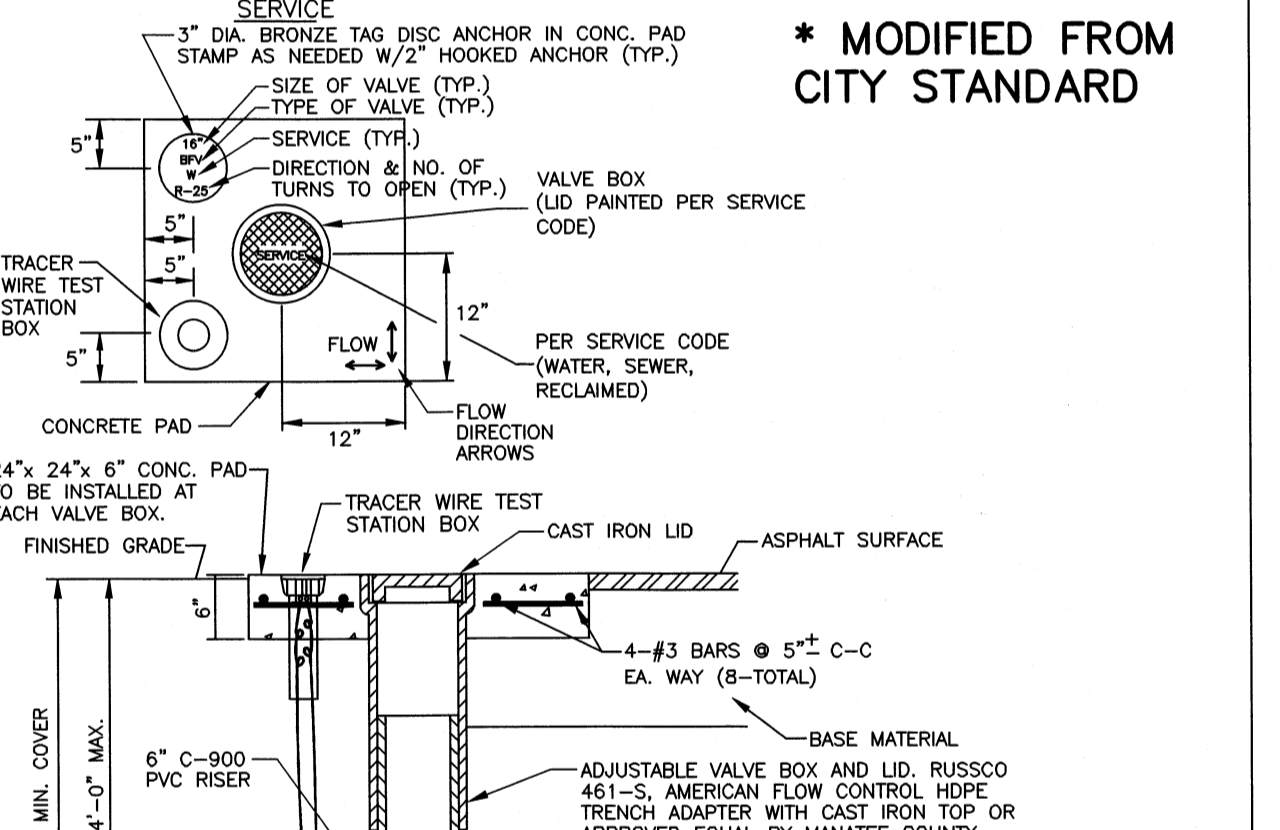
PIPE SIZE (IN.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		DEAD END & TEE		45° WYE	
	B	d	B	d	B	d	B	d	B	d	B	d
4	1.5	3 1/2	1.1	3 1/2	0.8	3 1/2	0.6	3 1/2	1.3	3 1/2	1.1	3 1/2
6	2.2	5 1/4	1.6	3 3/4	1.2	3 3/2	0.8	3 1/2	1.9	4 1/2	1.6	3 3/4
8	2.9	7	2.1	5	1.5	3 1/2	1.1	3 1/2	2.4	5 3/4	2.0	4 3/4
10	3.5	8 1/2	2.6	6 1/4	1.9	4 1/2	1.3	3 1/2	3.0	7 1/4	2.5	6
12	4.2	10	3.1	7 1/2	2.2	5 1/4	1.6	3 3/4	3.5	8 1/2	3.0	7 1/4
14	4.9	11 3/4	3.6	8 3/4	2.6	6 1/4	1.8	4 1/4	4.1	9 3/4	3.4	8 1/4
16	5.5	13 1/4	4.1	9 3/4	2.9	7	2.1	5	4.7	11 1/4	3.9	9 1/4
18	6.2	15	4.6	11	3.3	8	2.3	5 1/2	5.2	12 1/2	4.4	10 1/2
20	6.9	16 1/2	5.0	12	3.6	8 3/4	2.6	6 1/4	5.8	14	4.9	11 1/4
24	8.2	19 3/4	6.0	14 1/2	4.3	10 1/4	3.1	7 1/2	6.9	16 1/2	5.8	14
30	10.1	24 1/4	7.5	18	5.3	12 3/4	3.8	9	8.5	20 1/2	7.2	17 1/4
36	12.1	29	8.9	21 1/4	6.4	15 1/4	4.5	10 3/4	10.2	24 1/2	8.6	20 3/4

REINFORCEMENT MAT SCHEDULE

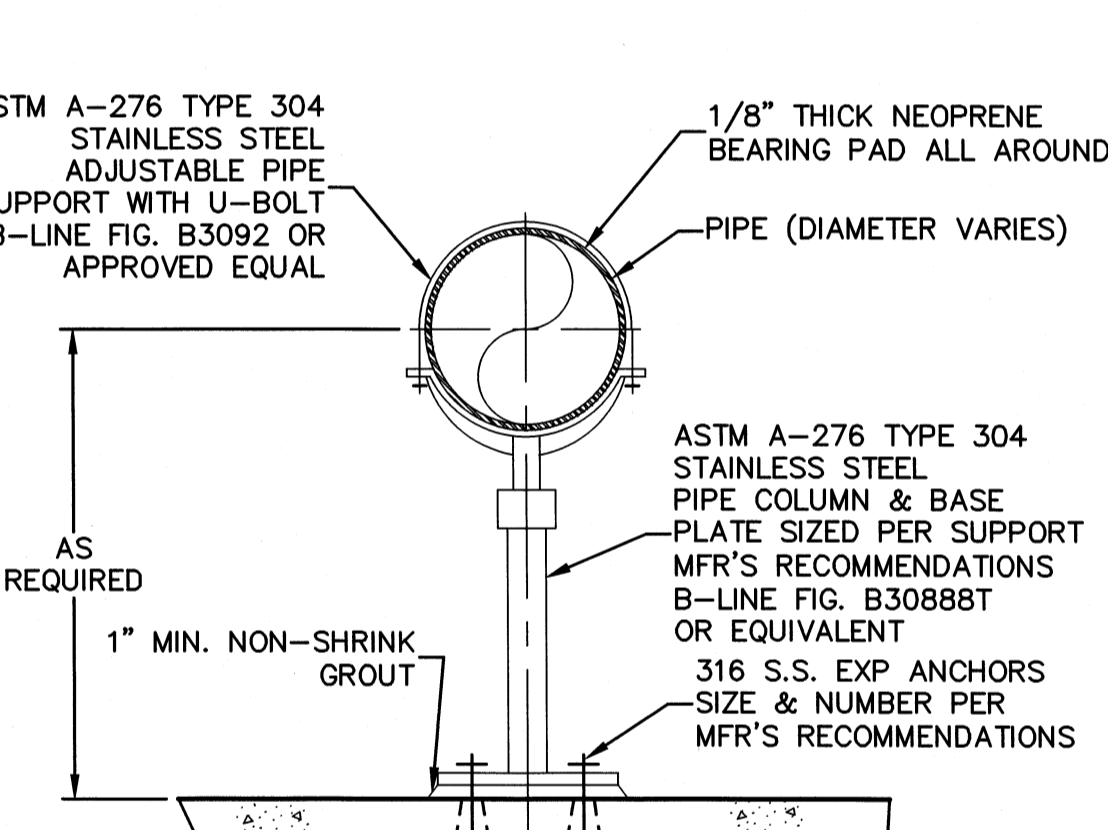
FOR DIM. "B" BETWEEN 5.75' & 12.5' USE #4 @ 8" EACH WAY
FOR DIM. "B" LESS THAN 5.75' USE #3 @ 8" EACH WAY



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
CONCRETE THRUST BLOCKS UG-7
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
BUTTERFLY VALVE, BOX, LID AND TAG UW-3
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09



MANATEE COUNTY ENGINEERING DIVISION
STANCHION PIPE SUPPORT
REV. BY DATE: MARCH 17, 2009
CLB/KE 02/05
JAA/JB 10/08
JAA/JEA 02/09

REV. NO.	RECORD DRAWING	DATE	DESCRIPTIONS

SEAL
MATTHEW S. LOVE, P.E.
No. 66118

SEAL

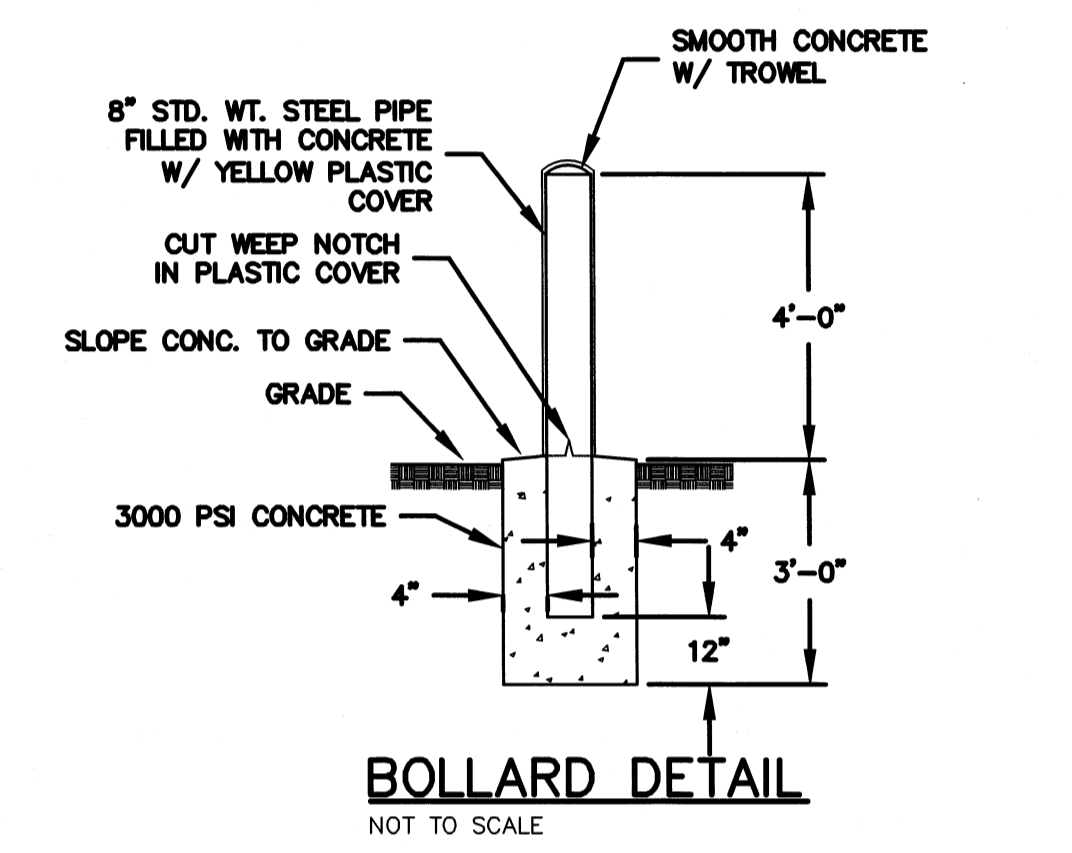
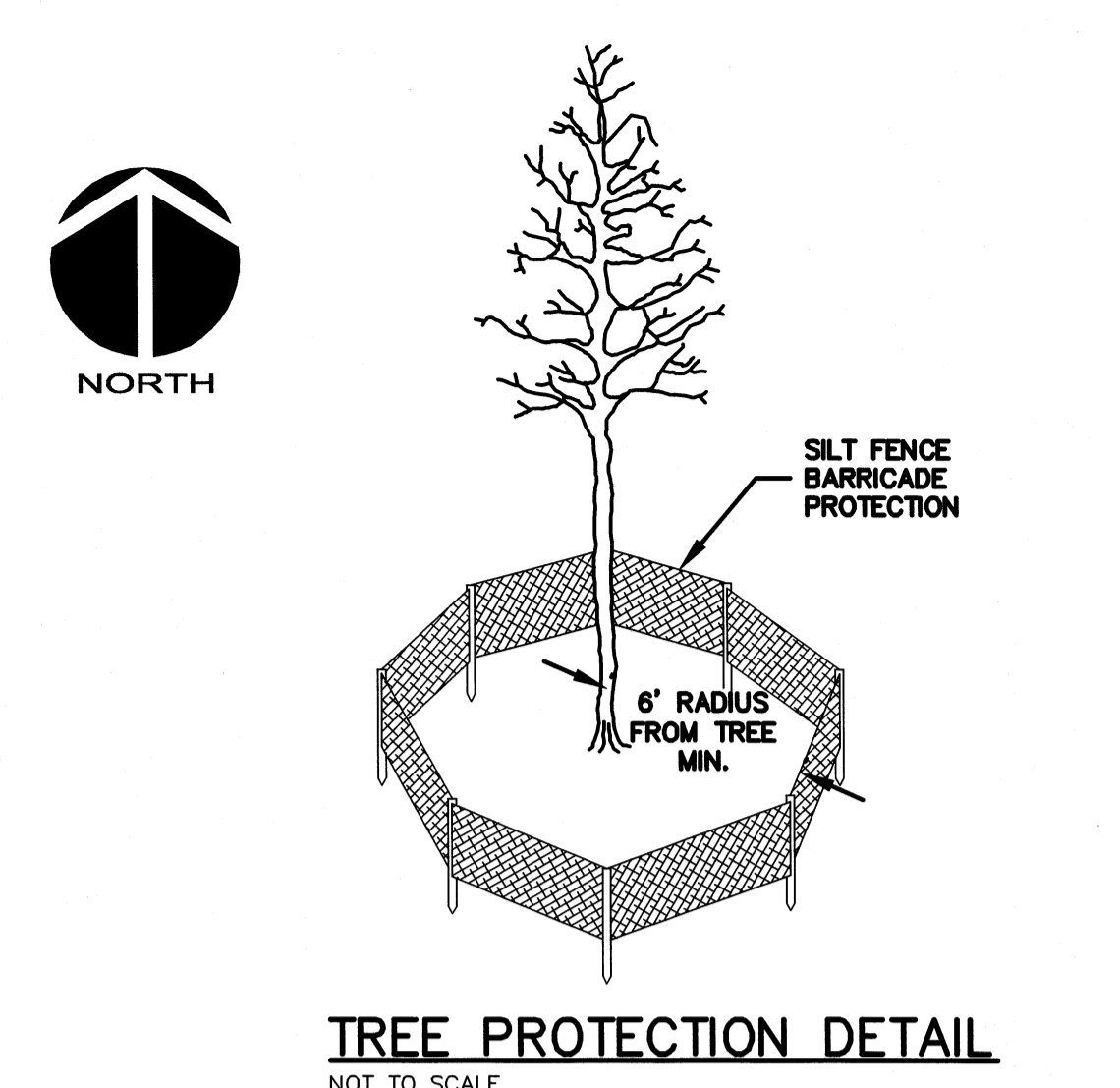
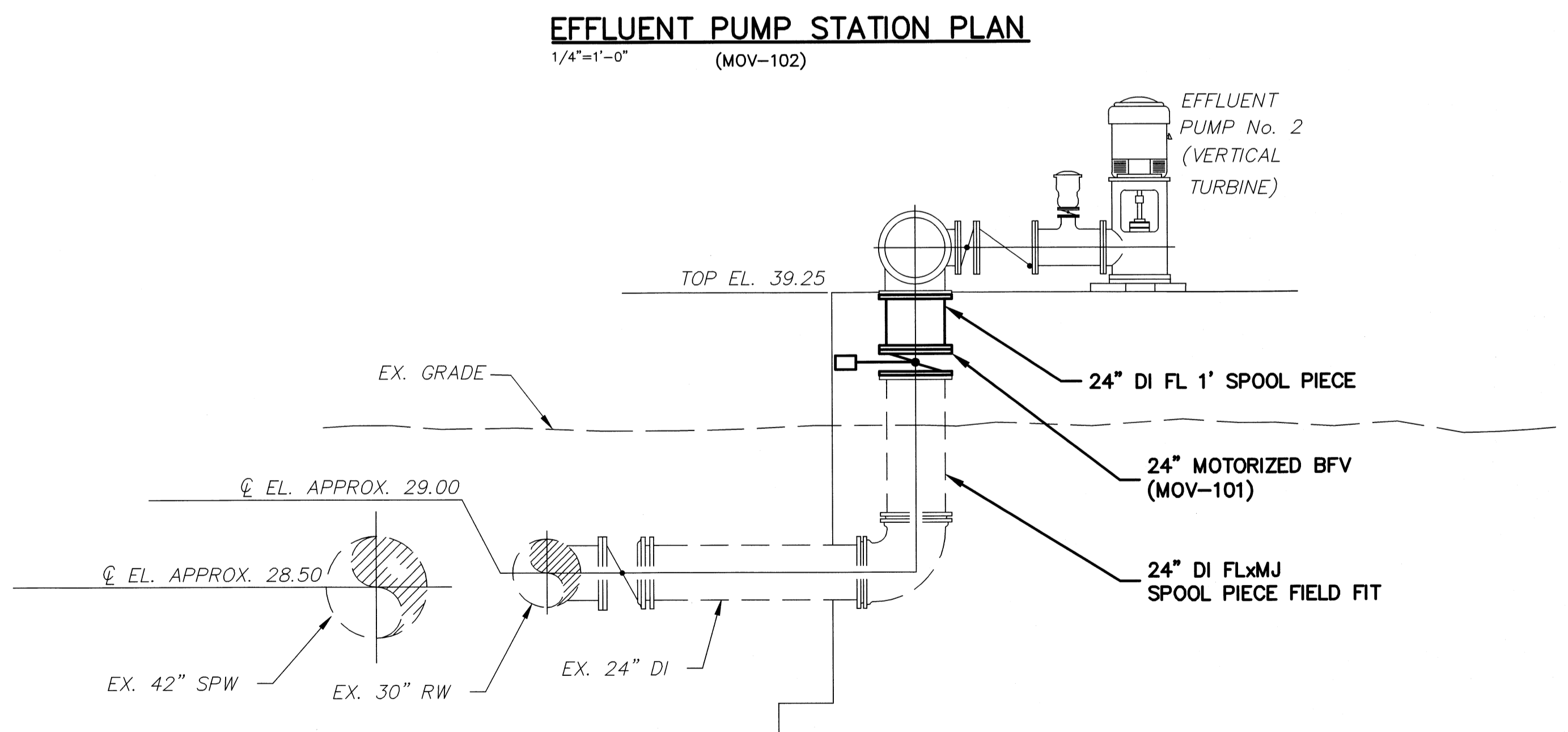
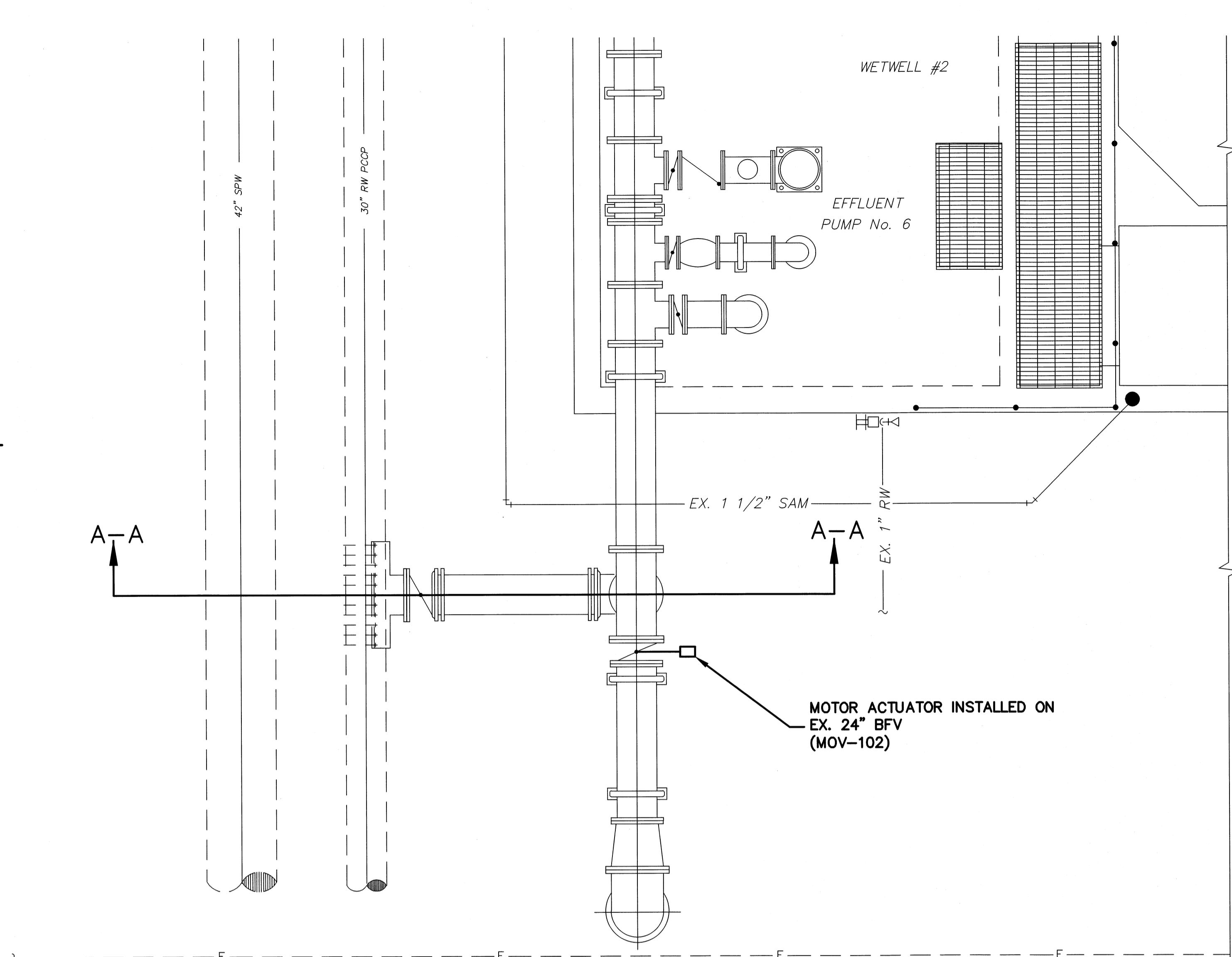
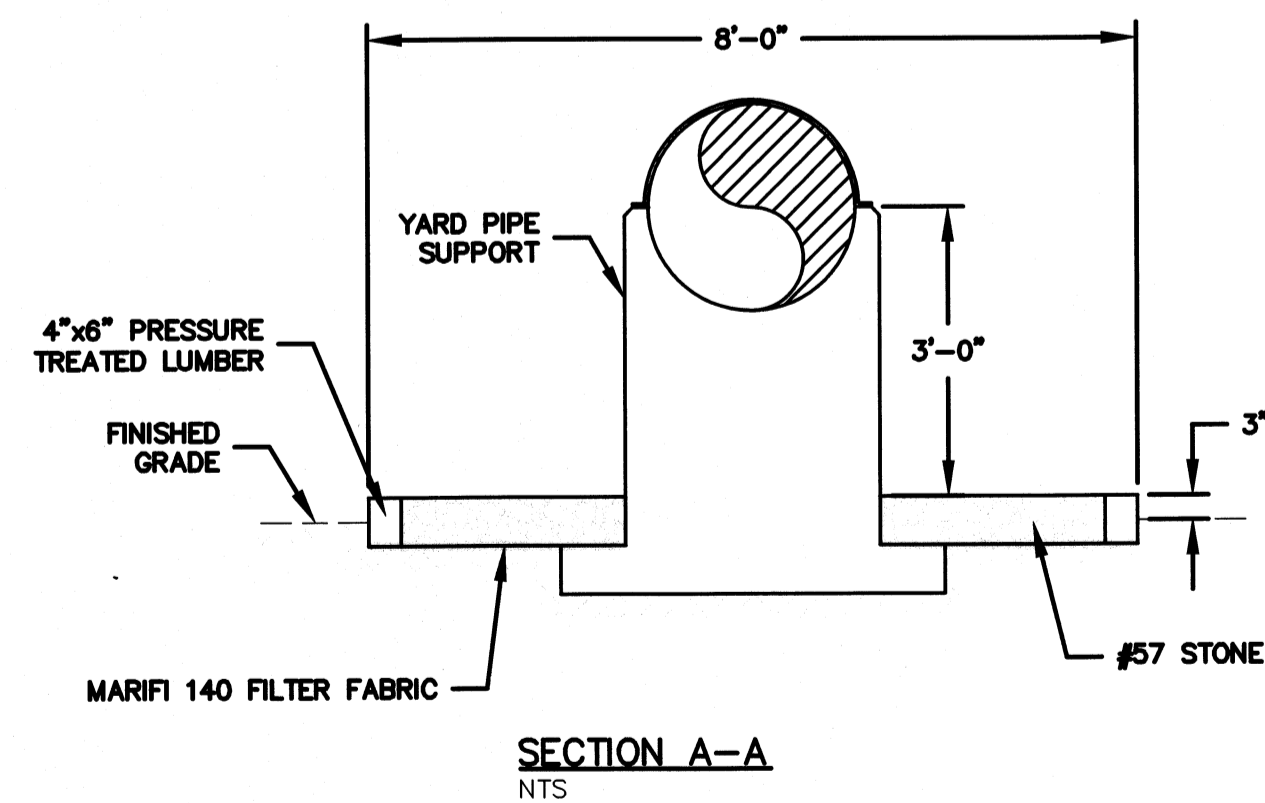
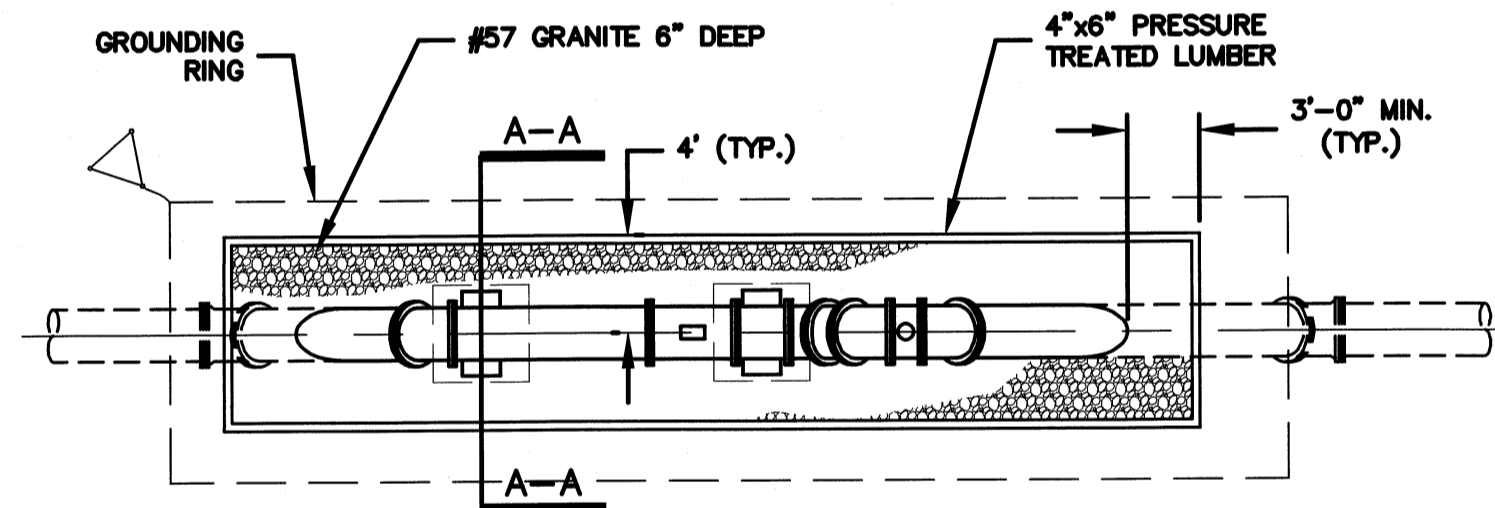
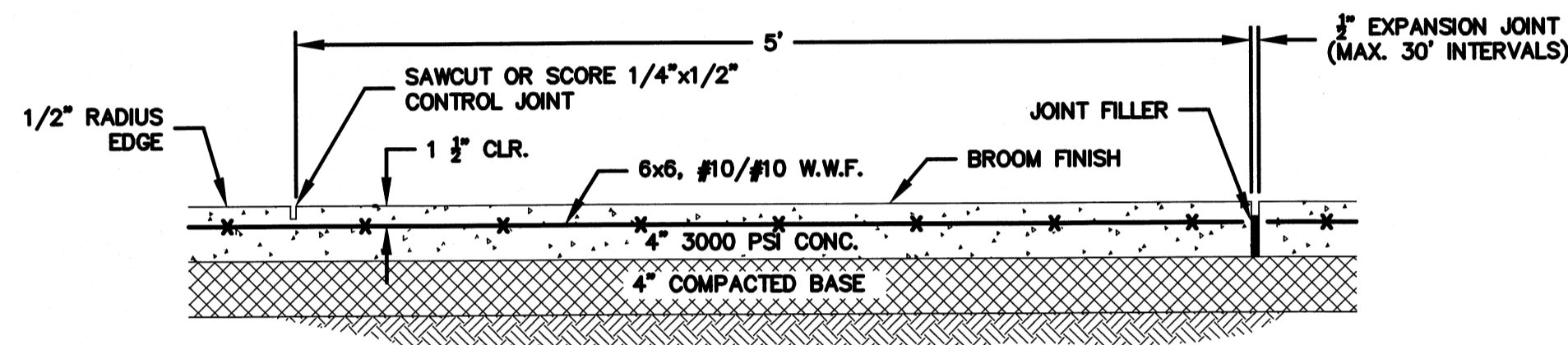
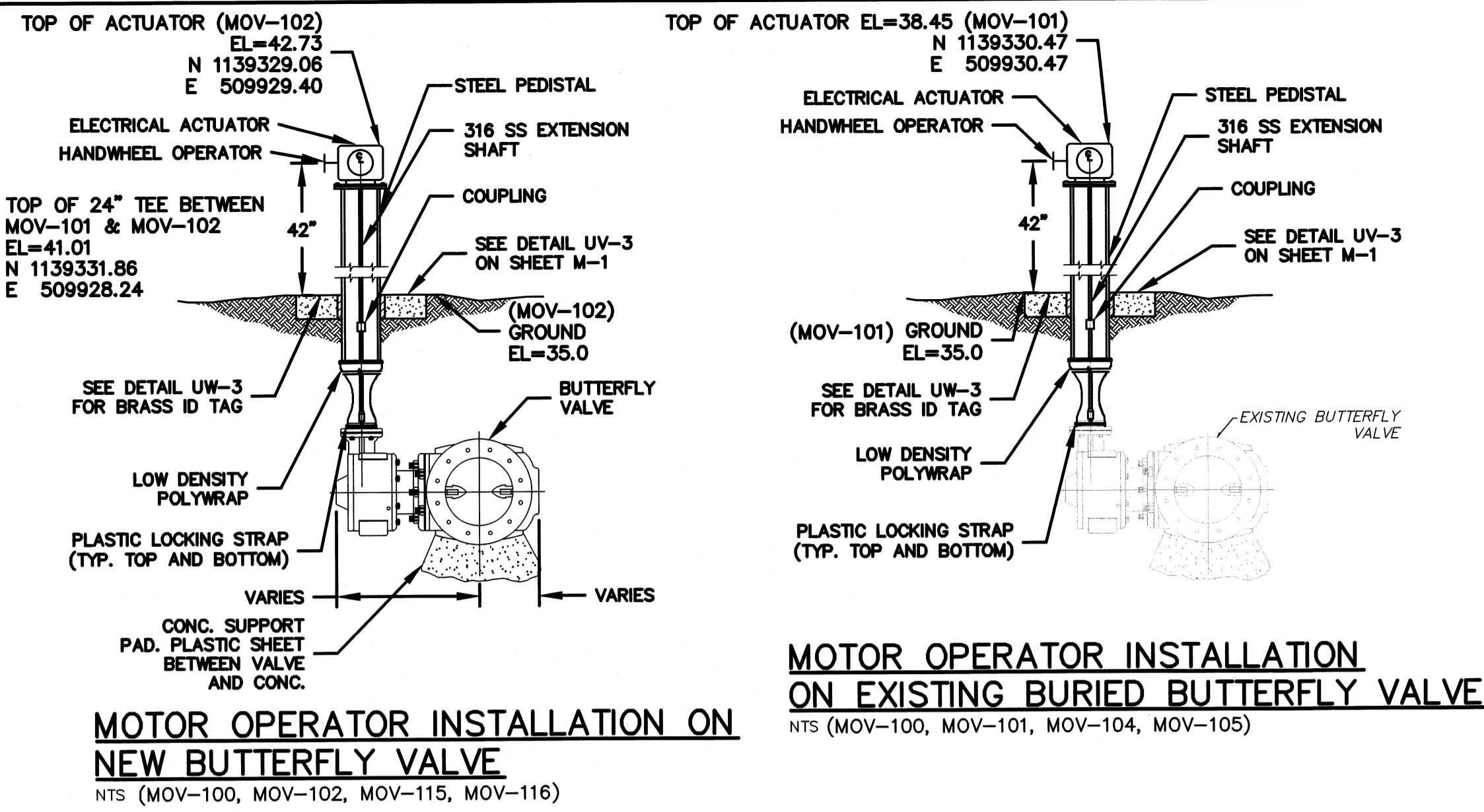
MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
EB0006691
www.mckimcreed.com

MANATEE COUNTY, FLORIDA

SEWRF RECLAIMED WATER AUTOMATION
MECHANICAL DETAILS 1

RECORD DRAWING
DATE: AUGUST 2012
MCE PROJ. # 1024-0129
DRAWN: QES
DESIGNED: MSL
CHECKED: JSL
PROJ. MGR: MSL
STATUS: REVISION

RECORD DRAWING
THIS DRAWING REPRESENTS A RECORD OF FACILITIES AND IMPROVEMENTS CONSTRUCTED AS PROPOSED BY THE CONTRACTOR TO BE A PART OF THIS PROJECT, BASED ON THE FOLLOWING:
A. ENGINEERS REVIEW OF INFORMATION PROVIDED
B. INFORMATION FURNISHED BY:
BRANDES DESIGN-BUILD INC.
2051 NE COACHMEN ROAD
CLEARWATER, FLORIDA 33765
O: 727-445-7544 / F: 727-445-7534
DATE MARCH 2012
THESE DRAWINGS ARE NOT INTENDED TO REPRESENT A DETAILED RECORD OF ACTUAL DIMENSIONS, ELEVATIONS, OR DETAILS. ALL SUBSTANTIAL CHANGES OR DEVIATIONS FROM THE ORIGINAL DESIGN, KNOWN BY THE ENGINEER, ARE NOTED HEREON.



S:\2012\Brands\2012\Record\0120\Mechanical\M-2 DETAILS-1046129.dwg, 8/23/2012, 2:41:07 PM, Quait Shuman

REV. NO.	RECORD DRAWING	DESCRIPTIONS	DATE

SEAL
 MATTHEW S. LOVE, P.E.
 No. 66118

SEAL

MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 EB0006691
 www.mckimcreed.com

MANATEE COUNTY, FLORIDA

SEWRF RECLAIMED WATER AUTOMATION
MECHANICAL DETAILS 2

RECORD DRAWING

DATE: AUGUST 2012
 MCE PROJ. # 1024-0129
 DRAWN: QES
 DESIGNED: MSL
 CHECKED: JSL
 PROJ. MGR.: MSL

AS SHOWN
 VERTICAL: NA

REVISION NUMBER: M-2

STATUS: RECORD DRAWING

RECORD DRAWING

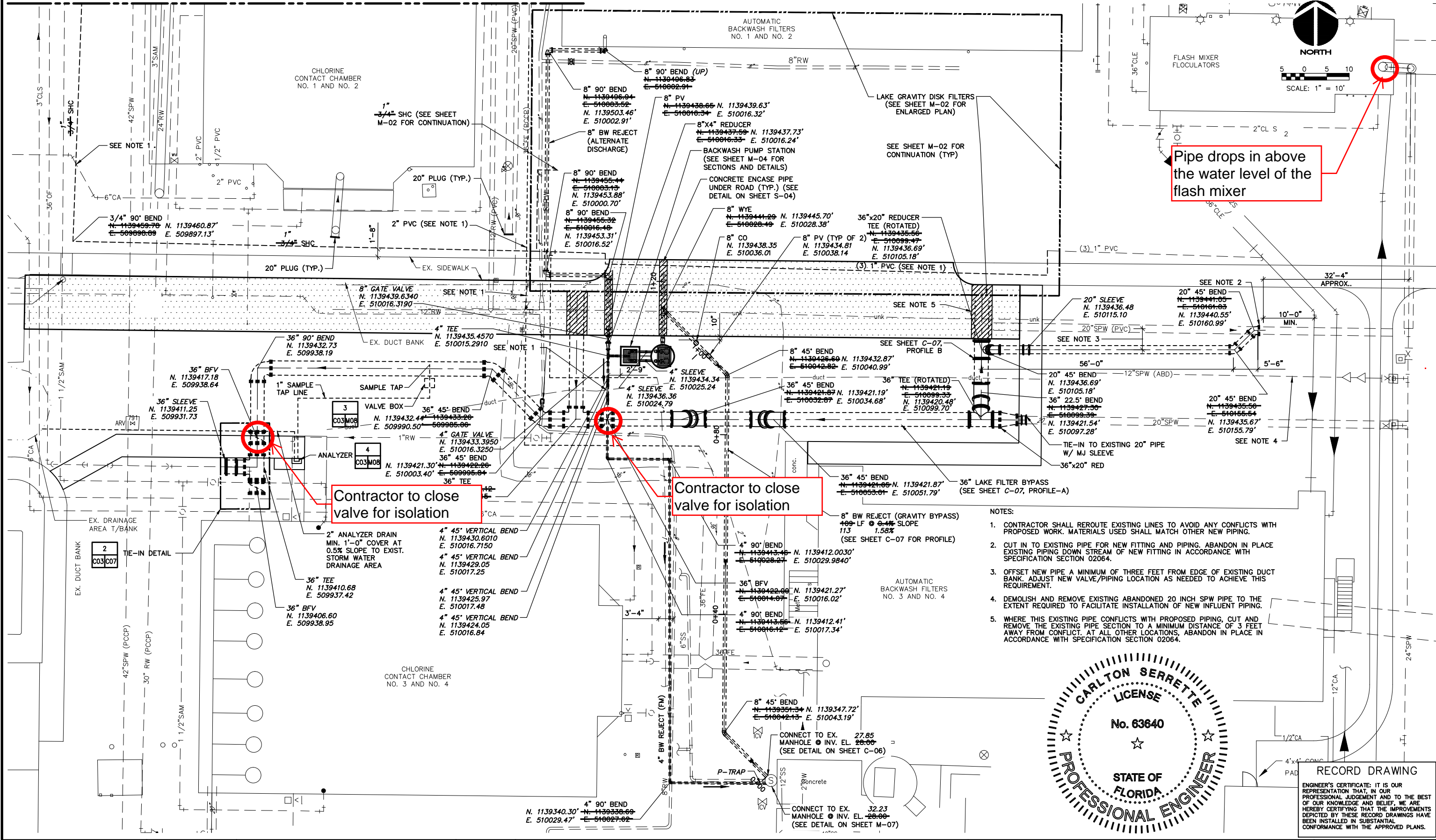
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 A. ENGINEERS REVIEW OF INFORMATION PROVIDED
 B. INFORMATION FURNISHED BY:
 BRANDS DESIGN-BUILD INC.
 2551 NE COACHMAN ROAD
 CLEARWATER, FLORIDA 33765
 O: 727-445-7544 / F 727-445-7534

DATE MARCH 2012
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MANATEE COUNTY ENGINEERING DIVISION
 ACCEPTED
 11/2/12 PHL

MANATEE COUNTY PROFESSIONAL ENGINEER
 MATTHEW S. LOVE
 LICENSE NO. 11818
 STATE OF FLORIDA

SEE SHEET C-04 FOR CONTINUATION

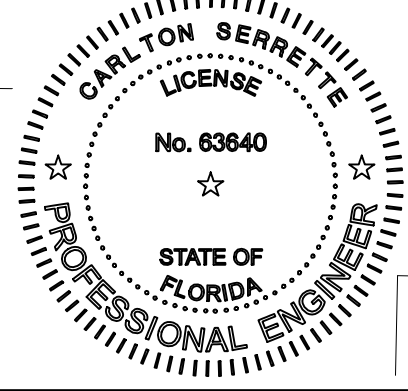


Pipe drops in above the water level of the flash mixer

Contractor to close valve for isolation

Contractor to close valve for isolation

- NOTES:
- CONTRACTOR SHALL REROUTE EXISTING LINES TO AVOID ANY CONFLICTS WITH PROPOSED WORK. MATERIALS USED SHALL MATCH OTHER NEW PIPING.
 - CUT IN TO EXISTING PIPE FOR NEW FITTING AND PIPING. ABANDON IN PLACE EXISTING PIPING DOWN STREAM OF NEW FITTING IN ACCORDANCE WITH SPECIFICATION SECTION 02064.
 - OFFSET NEW PIPE A MINIMUM OF THREE FEET FROM EDGE OF EXISTING DUCT BANK. ADJUST NEW VALVE/PIPING LOCATION AS NEEDED TO ACHIEVE THIS REQUIREMENT.
 - DEMOLISH AND REMOVE EXISTING ABANDONED 20 INCH SPW PIPE TO THE EXTENT REQUIRED TO FACILITATE INSTALLATION OF NEW INFLUENT PIPING.
 - WHERE THIS EXISTING PIPE CONFLICTS WITH PROPOSED PIPING, CUT AND REMOVE THE EXISTING PIPE SECTION TO A MINIMUM DISTANCE OF 3 FEET AWAY FROM CONFLICT. AT ALL OTHER LOCATIONS, ABANDON IN PLACE IN ACCORDANCE WITH SPECIFICATION SECTION 02064.



RECORD DRAWING
ENGINEER'S CERTIFICATE: IT IS OUR REPRESENTATION THAT, IN OUR PROFESSIONAL JUDGEMENT AND TO THE BEST OF OUR KNOWLEDGE AND BELIEF, WE ARE HEREBY CERTIFYING THAT THE IMPROVEMENTS DEPICTED BY THESE RECORD DRAWINGS HAVE BEEN INSTALLED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS.

MALCOLM PIRNIE
ARCADIS
The Water Division of ARCADIS
CERTIFICATE OF AUTHORIZATION NO. 7917
14025 RIVEREDGE DR. SUITE 600
TAMPA, FLORIDA 33637

REVISIONS			
NO.	BY	DATE	REMARKS
1	JP	02/2015	RECORD DRAWINGS

DES MC
DWN MC
CKD JP

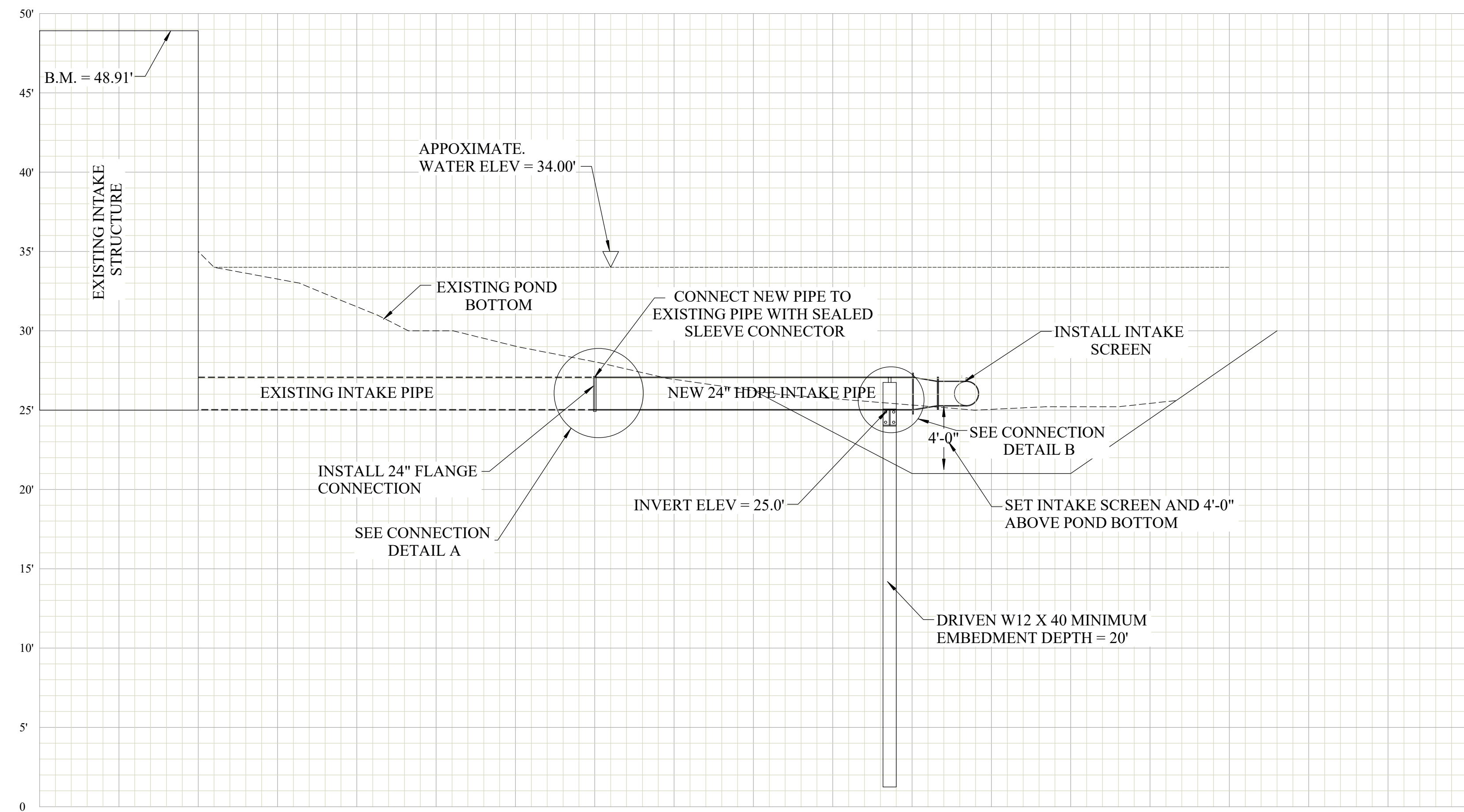
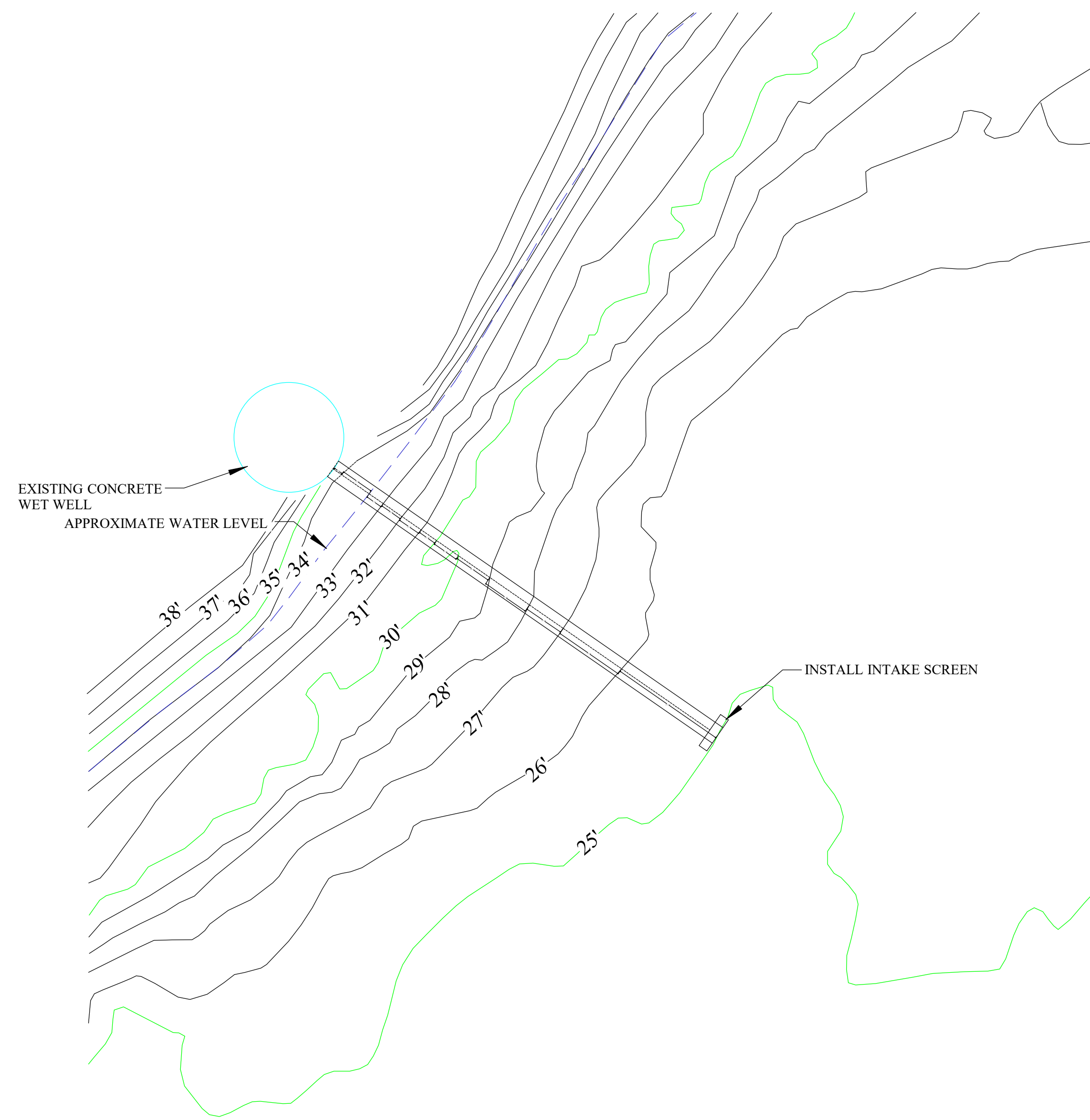
CARLTON SERRETTE
P.E. #63640



MANATEE COUNTY
SOUTHEAST WRF
LAKE FILTRATION SYSTEM

YARD PIPING PLAN I

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MALCOLM PIRNIE, INC.
THE WATER DIVISION OF ARCADIS
DATE FEBRUARY 2015
SHEET **C-03**
CAD REF. NO. 0132008_C03



PROJECT:
Manatee County East Lake Intake Extension

CONTRACTOR:
Westra Construction Corp.
1263 12th Ave. East
Palmetto, FL 34221

CERT. OF AUTHORIZATION #29713
FLA LICENSE NO 16921
(863) 657-2323 Office
(863) 657-2324 Fax
cauf@coolandcobb.com

ENGINEER:
Cool & Cobb Engineering Co.
203 West Main Street
Avon Park, FL 33825

Revisions:
02/20/14 Original

Project # 14-103

S-101

Sheet 1 of 2